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ABSTRACT

Cervical cancer is a diagnosis that has a profound psychosocial impact, constituting a physical and emotional crisis for patients as well as family. In general, research indicates that the choice of treatment and the stage of the disease are instrumental in determining the psychosocial adjustment. Disruptions are likely to occur in self-esteem, sexuality, intimacy, and communication. The complexities of both the disease and the treatment of cancer make research design a difficult task. While a few researchers have been able to define and operationalize important factors, the research in general is lacking in well controlled studies. Variables such as age of the patient, stage of the disease, pre- and post-treatment functioning, and the treatment approach are important components that affect the rehabilitation process. All of these areas need better control and further assessment in future studies. In regard to rehabilitation, strategies need to address the patient as well as her partner. The psychosocial intervention should include a strategy that considers emotional needs and conveys accurate information and education about diagnosis, treatment, and rehabilitation. While intervention is necessary at the early stages of treatment, it is essential that it continue in order to address long-term adjustment issues frequently found with cancer patients. (LLL)

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CERVICAL CANCER: A REVIEW OF THE PSYCHOSOCIAL FACTORS FOLLOWING TREATMENT

A Doctoral Research Paper

Presented to

the Faculty of the Rosemead School of Psychology

Biola University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Psychology

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by

Kevin Clark Gilliland

August 1991

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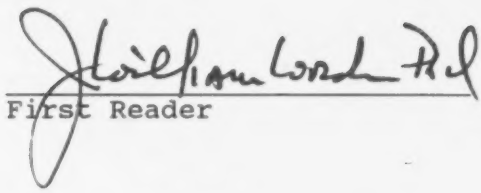

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ABSTRACT

CERVICAL CANCER: A REVIEW OF THE PSYCHOSOCIAL FACTORS FOLLOWING TREATMENT

by

Kevin Clark Gilliland

The research on cervical cancer is reviewed in order to assess the major psychosocial adjustments following treatment. A thorough review was conducted and methodological designs were evaluated. Research suggests that the following major aspects be considered: self-esteem, sexuality (including desire, enjoyment, and frequency), and impact on partners of patients (including intimacy and communication). Implications and strategies for rehabilitation and coping are also addressed.

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CERVICAL CANCER: A REVIEW OF THE PSYCHOSOCIAL FACTORS FOLLOWING TREATMENT

Introduction

There were an estimated 185,000 new cases of female genital cancer in 1990. Cancer of the cervix constitutes 63,000 of these new cases. Carcinoma in situ of the uterine cervix accounts for approximately 50,000 new cases, while 13,000 cases involve more advanced cancer of cervix uteri (American Cancer Society [ACS], 1991). Forty-five hundred deaths will result from these cases.

However, the incidence of cancer that has spread deeper into the cervix or nearby tissues or organs (invasive cervical cancer) has been steadily decreasing over the past several years. Overall, the death rate for uterine cancer has decreased more than 70% over the past 40 years as a result of regular pelvic exams and Pap tests (ACS, 1991). Research shows that cervical cancer in the preinvasive stage can be detected and prevented 97% of the time if women receive regular pelvic exams and Pap tests (Gusberg, 1986).

Although these advances have been significant, there are still high risk groups. Women, from all age groups at greatest risk for cervical cancer are those that are poor, are nonwhite, were young at the age of first sexual

intercourse, have had multiple sex partners, and smoke (ACS, 1990). It has also been determined that 25% of the new cases of invasive cervical cancer occur in women age 65 and older. Clinicians are finding that cervical cancer is beginning to occur in women at an earlier age due to the direct relationship of sexually transmitted diseases. Therefore, it is imperative that screening start when sexual activity begins, regardless of age.

Cancer is a diagnosis that has a profound psychosocial impact, constituting a physical and emotional crisis for patients as well as family (Bos-Branolte, 1986; Capone, Good, Westie, & Jacobson, 1980). The stress of cancer relates to the fear that one's life, one's body, are being altered in irrevocable ways (Krant, 1981). Regardless of the site or prognosis, one of the greatest fears of the cancer patient is the threat of death (Mantell, 1983; Schain, 1990; Singer, 1983; Weisman & Worden, 1976-77). Cancer not only calls upon the individual to tap physical resources, but more importantly for this discussion, it requires a vast amount of psychosocial energy.

Several clinicians have explored the impact that treatment has on the psychosexual adjustment of cervical cancer patients (Abitbol & Davenport, 1974a; Decker & Schwartzman, 1962; Schover, Fife, & Gershenson, 1989; Seibel, Freeman, & Graves, 1980; Seibel, Freeman, & Graves, 1982; Vasicka, Popovich, & Brausch, 1958; Vincent, Vincent,

Greiss, & Linton, 1975). Some of the major issues involve sexuality, self-esteem, communication, and family interaction (B.L. Andersen & B. Andersen, 1986; Freidenbergs, Gordon, Hibbard, Levine, Wolf, & Diller, 1982; Schain, 1990; Singer, 1983; Von Eschenbach & Schover, 1984).

The complex nature of the disease and its treatment make operationalizing key factors for research difficult. Variables such as disease site, staging, and treatment are instrumental in determining the rehabilitation process. In spite of the difficulties, some researchers have been able to assess and control methodological problems.

The purpose of this review is to survey and critique the body of research in the area of cervical cancer. In particular, an attempt will be made to delineate the psychosocial variables involved in the adjustment to diagnosis and treatment. The research reviewed will be drawn primarily from cervical cancer, with some research coming from gynecological cancer of the ovary, endometrium, and vulva. Some researchers have attempted to draw upon breast cancer research to show parallels with cervical cancer in psychosexual adjustment. While there may be some similarities, the purpose here is to look at the impact of cancer located in the female genitalia, more specifically, cancer of the cervix.

Methodological Issues

While the focus is on psychosocial adjustment, it will be necessary to take a cursory glance at the pertinent medical and technical information involved in this treatment. By no means is this a comprehensive analysis of the medical aspects of cervical cancer. Perex, Knapp, Disaia, and Young (1985) have provided a more thorough medical description of the disease, diagnosis, and specifics of treatment modalities. The methodological issues in this literature include the staging of disease and approaches to treatment, selection criteria and research design, and the population and procedure of the research.

Staging of Disease and Approaches to Treatment

Cervical cancer usually progresses at a slow rate and goes through a number of precancerous stages before the cervix shows definite signs of malignancy (Gusberg, 1986). Change in the makeup of the cells on the cervix is the earliest stage and is called dysplasia. Gusberg stated that once the entire surface of the cervix has undergone changes, the growths enter a stage where the cells fail to mature. Since these cells fail to spread or invade neighboring tissue, they are referred to as carcinoma in situ (in its original position). This early cancer involves only the top layer of cervical cells and does not invade deeper layers of tissue, possibly for months at a time and sometimes even years. Once the cancer spreads to deeper layers or to

neighboring tissue, it is referred to as invasive cervical cancer.

The growth rate of cervical cancer has been classified into stages by the International Federation of Gynecology and Obstetrics. The stages are described by Gusberg (1986) in the following manner: Stage 0. Preinvasive carcinoma in situ; Stage I. Cancer is confined to the cervix; Stage II. Cancer extends to the upper third of the vagina or the tissue around the uterus (the parametrium), but not into the pelvic wall; Stage III. Cancer involves the lower third of the vagina and/or the pelvic side wall and possibly the kidneys; Stage IV. Cancer extends beyond the pelvic organs, involving the bladder or rectum, a metastasis to distant organs, most often the lung or liver, but sometimes the bone.

The treatment for cervical cancer is generally individualized according to the histology, stage, and anatomical configuration of the tumor. Surgery, radiation therapy, and chemotherapy are the treatment modalities that are used either alone or in combination. Stage I through Stage IV cancers are generally treated with surgery or radiation, and sometimes a combination of both (Gusberg, 1986). Stage I cancers are usually treated with surgery, which involves a radical hysterectomy. Surgery may be a total hysterectomy, removal of the cervix and uterus, or a radical hysterectomy, removal of the cervix, uterus, upper

vagina, and the lymph nodes in the area.

Recent research on locally advanced cervical cancer has indicated that combined modalities of treatment, neoadjuvant chemotherapy and radical surgery, are a possible effective alternative to conventional treatments. A four year longitudinal study by Panici et al. (1991) demonstrated that cervical tumors were chemoresponsive in 38% to 90% of the clinical cases. The results of their work seem to indicate that this therapeutic approach is effective, feasible, and a promising new alternative in the treatment of cervical cancer.

While choice of treatment impacts all aspects of the patient, it appears to be particularly important to psychosexual adjustment. The sexual functioning of patients with cervical carcinoma appears to be dependent upon the type of therapy chosen. Several clinicians have compared treatments of radiation versus operation (Abitbol & Davenport, 1974a, 1974b; Adelusi, 1980; Decker & Schwartzman, 1962; O'Hoy & Tang, 1985; Seibel et al., 1980; Seibel et al., 1982; Vincent et al., 1975) and found that radiation caused severe side effects. In general, it can be said that whatever treatment choice is made, the more extensive the damage to the vaginal area, the greater is the likelihood of psychosexual complications (Krant, 1981).

Decker and Schwartzman (1962) interviewed 78 women with carcinoma of the cervix ranging from Stage O to Stage III

disease, comparing side effects of hysterectomy to those of radiation. They found a decrease in sexual function had occurred in 16 out of 32 patients (55%) treated by irradiation. This was in contrast to the radical hysterectomy group where only 6 out of 32 women (18.7%) reported a decrease in sexual ability.

The work by Decker and Schwartzman (1962) provided detailed descriptions of surgical and radiation treatment, something lacking in many current research projects. However, it lacked specificity in terms of measuring the dependent variable, change in sexual performance, and grouped patients without regard to stages of disease and age.

Selection Criteria and Research Design

The ability to generalize findings of research in the field of cervical cancer is a problem noted by several clinicians (B.L. Andersen & Hacker, 1983a, 1983b; Mantell, 1983; Schain, 1990). The evaluation of methodological weaknesses by B.L. Andersen and Hacker (1983b) provided valuable direction for future research regarding gynecological cancer. The key methodological weaknesses in the research are addressed before moving to a discussion of the findings.

The most frequently used method of gathering data has been the clinical interview. As B.L. Andersen and Hacker (1983b) have suggested, the reliability and validity of the

interview has long been questioned by psychologists because of its lack of reliability and validity. This technique is further troubled by questions of experimenter bias when it is performed by the researchers themselves, which has been the case with some of the studies. The clinical interview is further suspect when it is the sole source of gathering and interpreting data, as is the case with many of the studies (Abitbol & Davenport, 1974a, 1974b; Adelusi, 1980; Decker & Schwartzman, 1962; Seibel et al., 1980; Seibel et al., 1982; Vasicka et al., 1958; Vincent et al., 1975; O'Hoy & Tang, 1985). While some researchers have attempted to develop semi-structured interviews, the vast majority lack a standard instrument.

Since much of the research is gathered anywhere from two weeks to a year following treatment, many of the studies are impacted by confounding effects with history or time. The overwhelming nature of diagnosis and treatment appear to make it necessary to assess the patients' level of psychosocial adjustment at several different time points in the treatment (Carenza, Stentella, Albanese, & Etiope, 1982; Schover et al., 1989). Research by Gotay (1984) corroborated the importance of timing by finding that patients with advanced stage cancer reported significantly more problems coping than patients with early stage disease.

The need for multiple measurements in order to assess the psychosocial adjustment at different time periods is

another methodological concern. Several research studies indicated that a treatment effect which is observed immediately after the administration of the treatment may not be observed at some time later, and vice versa. This was the assertion made by Schover et al. (1989) when contradictions emerged with results obtained by Vincent et al. (1975).

The problem of clustering cancer patients into a single group has been pointed out by several clinicians (Freidenbergs et al., 1982; Heinrich & Schag, 1987). Individual variables such as age, stage of the cancer, sexuality, and the types of treatments are key domains that lack control and specificity in the current research. The need for control of individual variables is also seen in the serious methodological problems encountered in the area of sexual activity, with researchers frequently differing in their definitions and operationalization (B.L. Andersen & Hacker, 1983a; Bos-Branolte, 1986). A thorough review of the literature on psychosexual adjustment by B.L. Andersen and Hacker noted this difficulty and found the data to be uncontrolled and confounded, thus increasing the likelihood of obtaining biased results.

The disease site and the medical treatment are two important areas to be considered before attempting to interpret the varying time-related responses to cancer (Freidenbergs, et al., 1982). One of the best studies to

control for disease site and treatment was conducted by Abitbol and Davenport (1974b). A thorough and detailed discussion of treatment levels and site, as well as stage of disease, was presented in their findings. It is unfortunate that others have not modeled research designs after this work.

While some researchers have been able to define important variables, they have lacked additional psychometric instruments to assess change. An example of this is seen in the area of psychosexual adjustment where there has been limited use of structured tests or models to assess pretreatment and posttreatment levels of sexual activity. Level of marital satisfaction and distress are other variables that have lacked pre- and posttreatment specificity and assessment. There is also a lack of comprehensive protocols to assess psychosocial adjustment and an overemphasis on the test scores that are obtained (Freidenbergs et al., 1982; Heinrich & Schag, 1987). There is a need for more thorough use of psychometric instruments measuring change in pre- to posttreatment adjustment.

Population and Procedure

There are numerous difficulties facing the population selection for studies of women with cervical cancer (Schover et al., 1989). Many of the studies have utilized limited samples, such as lower class Chinese women (O'Hoy & Tang,

1985), poor urban blacks (Seibel et al., 1980), Nigerians (Adelusi, 1980), and Italians (Carenza et al., 1982). Since cultural ideas of femininity have a strong impact on physical attributes, it is important to obtain well controlled studies based on appropriately representative samples.

In summary, the domains that need clearer definitions in research are demographic information, evaluation of preexisting problems, and attention paid to patients at different stages and phases of disease and treatment (Freidenbergs et al., 1982; Heinrich & Schag, 1987; Schover et al., 1989; Weisman, 1979). Development of appropriate psychosocial interventions require obtaining reliable and valid measures of the impact that treatment has on the patient.

Psychosocial Adjustment Following Treatment

The diagnosis and treatment of cancer is a multifaceted process. While there are numerous variables that impact adjustment, one of the most important is the site of the cancer. When it is located in a site closely connected to female sexuality and identity, as is the case with cervical cancer, there are some specific issues that emerge (Abitbol & Davenport, 1974a; Amias, 1975; Bos-Branolte, 1986; Capone et al., 1980; Derogatis, 1980; Donahue & Knapp, 1977; Vincent et al., 1975). Sexual dysfunction, disruption of

interpersonal relationships, decreased libido, decrease in self-esteem, and decrease in sexual intercourse are several of the issues confronting women with gynecological cancer (Abitbol & Davenport, 1974a; Capone et al., 1980; Leiber, Plumb, Gerstenzang, & Holland, 1976; Schain, 1990; Vincent et al., 1975). This review examines these issues and assesses the methodological designs of the available research.

Self-Esteem and Body Image

Gynecologic cancer has a profound impact on the female identity. Femininity, motherhood, and sexuality are often impacted by cancer of the female genitalia (Krant, 1981; Schain, 1990). One particular aspect that is influenced is self-esteem, which includes feelings about body-image. As Gates (1978) has outlined, self-esteem is a multidimensional component that is influenced by life circumstances. In particular, gynecological surgery appears to elicit negative feelings and perceptions about physical characteristics and functions.

Research has indicated that operations altering physical appearance are generally experienced as an assault on the body image, thus impacting self-esteem (Bos-Branolte, 1986; Bronner-Huszar, 1971; Holland, 1976; Schain, 1990; Vettese, 1976). For women with cervical cancer, it is often a drastic decrease in the valuation of their femininity as well as of the self. Symptoms can either be actual or

perceived changes of functioning; in either case, fears of rejection and lack of ability arise which can be detrimental to self-perception (O'Laughlin, 1987). Further complications can arise as a result of the western culture's idealization of beauty and physical perfection, potentially damaging to aspects of self-esteem (Mantell, 1983).

Vettese (1976) found that the cancer patient's reaction often involves several bodily fears such as the loss of normal functions and mutilation. Body image and self-esteem are two variables that can significantly influence sexual behavior of women (B.L. Andersen & Hacker, 1983b; Mantell, 1983). Singer (1983) found that the negative body image was most likely the result of a combination of physical changes in the body due to treatment and side effects of the treatment that lead to weakness, helplessness, and dependence upon others.

Bos-Branolte, Rijshouwer, Zielstra, and Duivenvooden (1989) combined a semi-structured interview with the Basic Oncology Scale (BOS) questionnaire to study 90 Dutch women with gynecologic cancer. They too found that a large proportion of the women considered themselves less attractive after treatment than before. Results showed that 38% of the women thought themselves less attractive physically, 28% felt less attractive sexually, and 29% felt less feminine. Of the 90 women in this study, nearly two thirds felt less attractive and less feminine than they did

before the treatment. Therefore, for many women gynecologic cancer appears to pose a threat to self-esteem and identity.

Carenza et al. (1982) examined Stage I and II patients and found that almost all of them suffered psychological disorders they categorized as hypochondriacal. By this they meant that women suffered disorders of body image that were expressed by a feeling of impairment and loss of worth. Additional research has suggested that after gynecological surgery, women may experience feelings of incompleteness, lack of "wholeness," and incompetence; all of which are potentially damaging to a woman's sexuality (Bos-Branolte, 1986; Mantell, 1983).

The studies of Bos-Branolte et al. (1989) and Carenza et al. (1982) are similar in methodological strengths and weaknesses. Although both studies are from particular sections of the world, the Netherlands and Italy, both enhanced validity by combining a structured interview with psychometric instruments. Bos-Branolte et al. (1989) used the BOS-questionnaire, while Carenza et al. (1982) used the Machover and the Koch, two projective tests. While both research groups discussed staging in the selection of patients, they did not incorporate that material into the outcome measures, thus making assumptions about staging difficult. They also did not include sufficient information regarding the treatments used.

It appears that regardless of the particular type of

treatment, radiation versus surgery, the woman's body image is negatively impacted by cervical cancer. This is true in so far as the surgical procedures do not produce drastic disfigurement in the appearance of the genitalia. This was found to be the case in the research conducted by Seibel et al. (1980). They discovered that both the irradiated and the surgically treated patients changed the views of themselves as women.

In 1980, Seibel et al. studied 22 women with Stage I, II, and III cancer undergoing radiation therapy, and another group of 20 women undergoing surgery for carcinoma in situ. While they relied solely on the interview for data, they used computer analysis (SPSS) for their findings. However, the two treatment groups differed drastically in their stage of disease. They also had a discrepancy of age between the two comparison groups, a difference in average age of 17 years. Their results were further suspect since the population was drawn from one ethnic group, black Americans.

In summary, the dynamic of self-esteem is a multi-faceted concept influenced by changing life events (Schain, 1990). One of those issues involved with self-esteem is the body image, which has functional as well as aesthetic factors (Gates, 1978). The complexities of this area necessitates that the clinician interview patients and determine how a particular patient feels about her body image and how sexual functioning is related to her feelings

of value (Schain, 1990).

Sexual Functioning

The regaining of sexual activity sometimes takes a low priority when the life of a patient is threatened by the possible consequences of cancer. Patients are often more concerned that the cancer is cured than they are of the side effects of treatment (Abitbol & Davenport, 1974a). While this at times may be a necessary perspective, it can become a tremendous detractor from the adjustment following treatment. Research has highlighted several aspects of sexual functioning as related to treatment for cervical cancer: functioning difficulties, enjoyment, activity level, and desire.

Functioning difficulties. It has been estimated that anywhere from 30% to 90% of gynecological patients experience substantial difficulties in sexual functioning, variance due primarily to site and treatment modalities (B.L. Andersen & B. Andersen, 1986) Comparisons between control groups and gynecological cancer patients reveal that the changes in sexuality may result from negative interpretations from early cancer signs and symptoms (B.L. Andersen, Lachenbruch, B. Andersen, & DeProsse, 1986). While the diagnosis and treatment of cervical cancer can elicit sexual difficulties, it may also aggravate preexisting sexual dysfunctions (Corney, Everitt, Howells, & Crowther, 1989).

B.L. Andersen et al. (1986) compared sexual activity of cancer patients prior to the onset of symptoms with a healthy sample and found similar patterns of activity. However, when the signs and symptoms of the disease began to appear, the gynecologic cancer patients reported significant difficulties in sexual functioning. While other studies have considered sexual difficulties to occur after diagnosis and treatment, Andersen and associates found that such changes occur as the signs and symptoms of the disease begin to surface, which is prior to diagnosis and treatment.

B.L. Andersen et al. (1986) provided an example of a well designed and controlled analysis of sexual dysfunction after gynecologic cancer. They combined a structured interview, self-report questionnaires, and the Sexual Activities scale from the Derogatis Sexual Functioning Inventory in the assessment of 41 newly diagnosed (Stage I) cancer patients. Another unique asset of their study was the inclusion of a control group of "healthy" sexually functioning women. However, it is unfortunate that the study was limited to Stage I cancer and did not provide more detailed analysis of the age of the patients.

The age at the time of diagnosis also appears to be an important factor. Young women are more likely to be devastated by a disease that may make them less desirable as a partner or from a treatment that surgically induces menopause (Corney et al., 1989; Derogatis, 1980; Mantell,

1983). Gotay (1984) also found that young women and their partners, many of whom were unmarried and had no family, were concerned that the choice to bear children and have a family might be denied. Thus, for young women, fears of lost opportunity of motherhood may be particularly great.

Fear of contagion between the patient and her partner is another aspect of sexuality impacted by cancer (Decker & Schwartzman, 1962; Krant, 1981; Mantell, 1983; Seibel et al., 1980; Tang & Ngan, 1989). Findings also indicate that partners are afraid that they would cause the cancer to recur (Abitbol & Davenport, 1974a; Donahue & Knapp, 1977; Krant, 1981; O'Laughlin, 1987; O'Hoy & Tang, 1985; Seibel et al., 1980). Mantell (1983) speculated that since the genital organs are involved, fears of transmission of all forms of gynecologic cancer may be intense. If not corrected, these beliefs are likely to have an impact on the frequency of sexual relations between partners.

A number of studies have noted that lack of lubrication and pain during intercourse (dyspareunia) are major causes for changes in sexual functioning. Many of the research studies found that dyspareunia and persistent postcoital spotting were considered impediments to sexual intercourse. Tang and Ngan (1989) corroborated this issue when women reported the lack of lubrication and dyspareunia as major causes for changes in sexual functioning.

When alterations occur in vaginal structure, there are

additional problematic issues to be addressed, a finding consistent throughout the research. A study by Schain (1990) has outlined factors that are important to assess when alteration of the vaginal area occurs. These factors are functional impairment or alteration of vagina, arousal mechanisms or sensitivity, and desire.

Several factors appear to influence or exacerbate sexual functioning difficulties. Among these are pre-existing conditions, age, fear of contagion, dyspareunia, and alterations in structure. Diagnosis and treatment of cancer not only elicits particular sexual difficulties, but aggravates preexisting difficulties as well (Corney et al., 1989). Cultural and religious beliefs and norms may also complicate the adjustment and rehabilitation, especially if a women is heavily influenced by the pervading myths and misconceptions (Bos-Branolte, 1986). For these reasons, pre- and post-treatment assessment of sexual attitudes is essential in establishing reliability and validity in this area of research.

Enjoyment. Sexual enjoyment is an aspect of sexual life that is heavily impacted by diagnosis and treatment of cervical cancer. Seibel et al. (1980) found irradiated patients experienced a significantly greater decrease in sexual enjoyment and orgasm than the surgical group. Of the 18 women that reported enjoying intercourse one year prior to irradiation, only 50% still enjoyed intercourse one year

after irradiation. In the surgical group of 17 patients, on the other hand, 88% still enjoyed intercourse one year after therapy.

Supplementary studies by Seibel et al. (1982) corroborated their earlier findings. This later research showed that for the irradiated group of 43 women, the percentage of experiences when intercourse was enjoyable declined from 65.4% to 45.1% after treatment. The nonradical surgery group of 44 women, on the other hand, increased enjoyment of sexual activity by 1.3%.

While the findings of projects by Seibel et al. (1980, 1982) have provided a volume of valuable information, it is unfortunate that both experiments lacked representativeness in the sample and psychometric assessment instruments to heighten reliability and validity of the findings. Seibel et al. assessed sexual functioning before and after treatment in 1980 and later controlled for age as a factor in sexual functioning in 1982, both strengths that are lacking in many of the other studies. However, Seibel et al. (1980, 1982) relied solely on the interview with statistical analysis (SPSS) as the means of data collection, limited the studies to one ethnic group (black Americans), and grouped patients without regard to the stage of disease.

O'Hoy and Tang (1985) interviewed 103 Chinese patients varying in stage from carcinoma in situ to Stage III disease, and found a decreased level of sexual enjoyment

after treatment. There were 10 patients in the radiotherapy treatment group, 40 patients in the radical surgery group, and 53 patients in the combined treatment group. In the three groups that were studied, they found the following results: Of the radiotherapy patients 80% had a decrease in sexual enjoyment, of the combination radiotherapy/surgery patients 50% decreased sexual enjoyment, with a 28% decrease found among the surgery patients.

The population selected by O'Hoy and Tang (1985) limits generalizability of the results because it was from a particular area (Hong Kong) and was further limited to a particular class (lower socioeconomic). There was also poor control of staging of disease across treatment groups, inadequate explanation of treatment, and poor control for age. Further problems were found in the radiotherapy alone group, where many of the women were older and already sexually inactive prior to treatment. The results therefore can not be considered strong support for a differential between treatment effects.

Enjoyment of sexual activity is an area in need of further research and analysis. The studies reviewed appear to suggest that enjoyment of sexual activity is negatively affected by the symptoms and treatment of cervical cancer. However, these studies are lacking in number and methodological rigor, making it difficult to draw conclusions that may be found in different treatments,

staging, and age of patients.

Activity level. Another aspect impacted by treatment and diagnosis is sexual frequency or activity level. Abitbol and Davenport (1974a) used two experimentally blind interviewers to gather information from 75 cervical carcinoma patients with Stage I and II cancer. In the radiotherapy group, 15 of the 28 patients (78%) had a marked decrease in sexual activity, with 7 stopping completely. In the surgical group, on the other hand, they found that only 2 of the 32 patients (6.2%) had stopped completely, 4 had minimal changes, 20 had no change, and 6 mentioned improvement. Of those that received a combination treatment, 5 of the 15 patients (33%) reported a decrease in sexual activity.

Abitbol and Davenport (1974a) provided helpful information and demonstrated solid methodological design when they divided the patients into categories: radiation, surgery, surgery alone, and combination surgery/therapy. They also included pre- and posttreatment assessment of sexual functioning. While they relied on the interview for data, the use of experimentally blind interviewers was an asset to the validity of the findings. However, it would have been beneficial to separate the findings in regard to the patients' age and stage of disease.

Adelusi (1980) interviewed 101 women with Stage I, II, and III cervical carcinoma before and after radiotherapy.

Corroborating other research, Adelusi found that patients reported an overall reduction in frequency of intercourse. While this reduction was reported in all groups, the decrease was especially marked in the Stage III patients. More specifically, of the 39 patients, 97.4% had completely abandoned intercourse after treatment.

The research by Adelusi (1980) was exceptionally good at controlling the major variables of cervical cancer research. Adelusi differentiated patients in regards to treatment doses, included age in the analysis of findings, had one of the larger samples of women with cervical carcinoma, and assessed patients pretreatment and posttreatment (12 to 18 months). However, the population was drawn from Nigerian women and the study relied solely on the clinical interview as a source of data gathering. Cultural factors therefore may limit the generalizability of these findings. While the research provided some of the best analysis of age of patients and treatment dosage, there also was not a group of surgical patients as a comparison base.

Early research by Seibel et al. (1980) studied the impact on frequency of intercourse and found that 16 of 22 irradiated patients (72%) decreased in frequency. However, only 10 of the 20 surgical patients (50%) reported a decrease in frequency one year after treatment.

Supplementary studies by Seibel et al. (1982) also

showed that the irradiation group demonstrated a decline in frequency of intercourse, from a pretreatment mean of 7.1 days per month to a posttreatment mean of 3.5 days per month. The nonradical surgery group reported no significant change in frequency of sexual activity. These investigators also performed one of the only age-controlled comparisons and did not find age to be a major factor in regards to sexual function.

The research on sexual activity has helped reveal potential differences between treatments groups as well as staging of disease. It appears that the nonradical surgery has very little effect on sexual activity, while radiotherapy appears to be particularly detrimental to sexual functioning. There may also be differential effects as a result of staging, with more advanced stage cancers leading to a greater decrease in sexual activity.

Desire. The loss of sexual desire (libido), either temporary or permanent, is an aspect that often occurs with the treatment of cervical cancer. Generally, this is more a result of psychological reaction than of surgery, provided surgery does not cause drastic change to vaginal structure. Studies by Abitbol and Davenport (1974a) found that 12 of the 28 radiotherapy patients (42.5%) reported lack of libido, only 2 of the 32 surgical patients (6.2%) reported lack of libido, and 1 of the 15 combined treatment patients (6.6%) reported a deficiency in libido.

There were two studies conducted by Seibel and associates that examined the impact of treatment on sexual desire. Seibel et al. (1980) found that the irradiated patients experienced a decline in desire while the surgical patients remained essentially identical before and after treatment. Additional studies by Seibel et al. (1982) again showed a decrease in desire among 51.2% of irradiation patients, compared to the nonradical surgery patients where 93% reported the same level of desire.

Carenza et al. (1982) assessed 40 women following radical hysterectomy for carcinoma of the cervix. They found that there was a greater impact on sexual interest than on sexual activity. In regard to desire, their study showed that 16 of the 40 patients (40%) had a diminished interest in sexual activity after surgery. Interestingly, Carenza et al. (1982) found 8 patients (20%) to have no change, and 4 that improved sexually as compared to the preoperative period. The 4 people that improved had all undergone psychotherapy.

B.L. Andersen and Hacker (1983b) examined psychosexual functioning following pelvic exenteration. In their study, 80% of their patients reported little or no sexual interest following treatments. The study by B.L Andersen and Hacker involved a procedure that results in rather extreme alterations of the vaginal area.

However, Vincent et al. (1975) interviewed 50 patients

before and after treatment for Stage I and II cervical cancer and contrary to other studies, did not find a decrease in desire in either surgical or radiotherapy patients. Six months after treatment, they found that of the 30 patients, 70% had either as much or more desire for coitus as they had before the illness. While the investigators were careful to match subjects in regard to age, stage of disease, marital partner, and education, their findings are somewhat suspect due to the means of data gathering. In particular, the interview lacked specificity, design, and consistency from before and after treatment measures, especially in the area of sexual desire. Findings were further suspect since the population was from a particular socioeconomic class: poor white women with low education (72% did not complete high school).

Schover et al. (1989) assessed 61 women with Stage I and IIa cervical cancer to determine sexual dysfunction following treatment. They discovered that sexual desire remained the same at a six-month follow up, but by one year after treatment, had declined significantly. While there was no difference in the irradiated and surgical patients at six months, the one year mark showed that the irradiated women had less sexual desire than women treated with hysterectomy. Their research highlighted the importance of measurements at different intervals after treatment.

The work by Schover et al. (1989) combined the

interview with the Dyadic Adjustment Inventory of marital adjustment, the Sex History form, and the Brief Symptom Inventory. Other strengths were the inclusion of spouses and measurements obtained before and after (six months and one year) treatment. While the authors provided detailed analysis of treatment, they did not relate results to the particular stage of disease or age of patients.

In a recent study of London women, Corney et al. (1989) interviewed 105 gynecological cancer patients that had undergone radical surgery treatments. They inquired about the degree of closeness following treatment and found that of the 64 married women, 40% reported feeling closer to their partner, as opposed to only 19% that felt less close. Further assessment of the overall marital satisfaction showed that 35% of the women felt more satisfied and 16% felt less satisfied.

The research by Corney et al. (1989) lacked both instruments to measure psychosocial adjustment and the design to control for confounding factors. The researchers relied on the clinical interview and failed to differentiate the women in regard to age and stage of disease. Adding to the question of reliability is the fact that one of the authors conducted the interview.

Summarizing the research on sexual desire, it appears that the choice of treatment has a significant impact on the sexual desire of patients. In particular, the greatest

decrease in desire was seen in the radiotherapy and radical surgery patients. As was the case with sexual activity, the patients undergoing nonradical surgery appeared to have the least amount of decrease in sexual desire.

Marriage and Communication

The psychosocial impact on the patient as well as the partner is often as great as the physical effects of disease and treatment (Singer, 1983). While the relationship between partners has been seen to hinder adjustment in sexual activity, it has also been found to be a source of tremendous support (Bos-Branolte et al., 1989; Cassileth, Lusk, Strouse, Miller, Brown, & Cross, 1985). Corney et al. (1989) also found that 40% of the 83 subjects felt closer to their partner and 35% felt more satisfied in their relationship than prior to treatment. Dempsey, Buchsbaum, and Morrison (1975) found that the married women reported that their husbands in particular had been of great help during their illness. Weisman and Worden (1976-77) similarly found that the widowed, divorced, and those with little or no support from a significant other had high rates of vulnerability.

However, as is the case with sexuality, it is imperative that a premorbid assessment of marital functioning and satisfaction be obtained. The need for pre- and posttreatment assessment was highlighted by the cancer research of Weisman and Worden (1976-77). They found that

patients experiencing the highest emotional distress were also the ones that reported marital problems prior to the illness.

While gynecological cancer threatens all familial relationships, its impact on intimacy and communication has been studied by several researchers. Research has indicated that the posttreatment quality of the relationship is best defined by intimacy, emotional support, and open communication rather than by sexuality (B.L. Andersen et al., 1986; Bos-Branolte et al., 1989; Gotay, 1984; Krant, 1981; Leiber et al., 1976). In particular, Bos-Branolte et al. (1989) studied these variables and found that intimacy, emotional support, and communications coincided to a high degree ($p < 0.001$).

Interestingly, researchers have found that the decline in desire for intercourse was significantly associated with an increase in desire for physical closeness and intimacy. B.L. Andersen et al. (1986) found that women reported a substantial loss of desire for intercourse, but had little loss of desire for nonsexual, affectionate kissing. The decrease in desire for sexual intercourse does not necessarily mean a decrease in the desire for intimacy and closeness. Although B.L. Andersen et al. confined their investigation to early stage cancer, the study was exceptional due to its numerous means of gathering data and the inclusion of a control group of "healthy" women.

Research by Leiber et al. (1976) investigated the communication of affection between advanced cancer patients and their spouses. The investigators studied 75 patients and spouses and found that since the onset of illness, 49.3% of the patients reported an increase in desire for physical closeness and intimacy, as distinguished from sexual intercourse. Only 6% of the patients reported an increased desire for intercourse, while 37.5% reported a decrease in desire for intercourse. These findings seem to suggest that the need for physical contact with significant others may be heightened during a serious illness.

While the research by Leiber et at. (1976) was on numerous types of advanced cancer, it is one of the better designed and controlled studies of patients and spouses. The researcher included spouses in the study, combined an interview and questionnaire with the Beck Depression Inventory and the Affectional Needs and Behavior Scale. However, the description of treatment, staging of disease, and age of patients were variables that were not controlled for or reported.

Another integral part to the adjustment process involves communication between patients and partners. Communication is an integral part of the ability to confront life's difficulties, making it a particularly important aspect for the cancer patient. Communication not only helps to facilitate the adjustment process by providing

support and an avenue whereby a patient can share anxiety and difficulties, but also provides opportunity to dispel pervasive myths and misconceptions regarding treatment and rehabilitation.

It appears that the difficulty adjusting increases the need for communication after cancer diagnosis and treatment (Bos-Branolte et al., 1989; Leiber et al., 1976). Bos-Branolte et al. (1989) found that the need for communication emerged during cancer treatment and increased twice as much in the women as in their partner. Weisman and Worden (1976-77) also found communication to be an important aspect of rehabilitation and coping. They discovered that the "good copers" used communication techniques of confrontation and redefinition. However, patients with the highest vulnerability were those that tended to suppress worries and withdraw. Furthermore, the poor copers used suppression and passivity and stoic submission to reduce tension.

Leiber et al. (1976) studied the communication between patients and partners with early stage cancer, three fourths of the 75 patients were ambulatory and living at home. They found that the verbal communication between partners maintained previous levels of intimacy. If intimacy did change, it resulted in an increase in communication. However, it appears that as the disease progresses, communication suffers.

Another concern in treating cervical cancer patients

lies in the stress placed upon the partners. The diagnosis of cancer in a partner has been found to create numerous domestic difficulties (Bos-Branolte et al., 1989; Decker & Schwartzman, 1962; Gotay, 1984). Bos-Branolte et al. (1989) examined the impact on partners and found that they suffered from sexual difficulties as well. A third of the men suffered from potency or erection disturbance. They also reported that these dysfunctions were not due solely to sexual apathy or aversion and that high blood pressure or cardiac complaints played a part. Of importance to the patient, it was also found that in cases where the husband had rejected any kind of physical overture made by his wife, the relationship had deteriorated.

A further complication to the relationship was found when the women reported being unaware of their husbands' needs, with most reporting that they never thought about them. Gotay (1984) also noted this problem and found that partners often experience the same concerns as the patients, yet their needs often are overlooked by the patients, as well as by the health care providers. The pressures of adjusting to cervical cancer treatment is clearly not limited to the patient.

Gotay (1984) assessed 112 individuals, patients and their mates, and combined a structured interview with a coping scale developed by Sidle et al. (1969). The patients had early stage cervical cancer and advanced stage breast

and gynecological cancer. Since the focus of the research was on the interaction of patients and their mates, it lacked specificity in regard to staging and treatment of the patients' disease.

One of the potential results of the stress placed upon a marriage where a partner has cancer is divorce or separation. While this has not been an isolated variable for empirical research, there does appear to be evidence of marital breakdown in several of the articles that have been covered (Abitbol & Davenport, 1974a; Adelusi, 1980; Vasicka et al., 1958). In research conducted by Adelusi (1980), 21 of the 78 married women in the research (25%) either separated or divorced after diagnosis and treatment of their disease. The inclusion of pre- and posttreatment measures of marital satisfaction would have helped strengthen the reliability and validity of these findings, it is unfortunate that neither study included these measures.

Before moving on, it is necessary to discuss a tremendously neglected domain of adjustment for cervical cancer patients. This point involves the particular issues of adjustment for lesbian patients. There are few studies that mention the need to be sensitive to homosexual couples and no research based studies were found on homosexuals for this review. Schain (1990) and Donahue and Knapp (1977) were the only researchers sensitive to the issue of homosexual patients, but they were unable to provide

information specific to the needs of homosexual couples.

The issue of adjustment for homosexual couples becomes especially important in the area of psychosexual adjustment. "If cunnilingus is a major aspect of two women's sexual pleasuring, and the vaginal area has been disfigured . . . major alterations in sexual expression may be necessary" (Schain, 1990, p. 329). Assuming that a patient's sexual orientation is heterosexual is a grievous mistake that can be averted by a thorough clinical interview sensitive to sexual preferences and lifestyles. Future research should attempt to address the needs of all patients, not just heterosexual women.

The diagnosis and treatment of cervical cancer impacts patients as well as partners. Intimacy, emotional support, and communication are some of the major areas that are impacted. Krant (1981) highlighted the importance of communication by finding that it is likely to cause long term suffering unless attention is given to the means in which patients and families share information and explore fears. Another important finding was that the decrease in desire for sexual intercourse does not appear to indicate a decrease in desire for closeness and intimacy. The focus by researchers on frequency of coitus and orgasm may not be in accordance with the actual needs of women undergoing treatment for this type of cancer (Bos, 1986). Rather, it

appears that treatment for this disease increases the need for emotional support for both patient and partner.

Rehabilitation and Coping

It is imperative today that gynecologists be concerned not only with cure and palliation of cervical cancer, but with the rehabilitation and return to families as intact and functioning individuals (Donahue, 1979). Psychosocial interventions for patients and partners needs to encompass emotional and educational strategies (Donahue, 1978; Schain, 1990). Accurate information about sexual dysfunction, self-esteem, and effects on the partner can lead to more effective rehabilitation programs designed to facilitate the psychosocial adjustment.

Several clinicians have suggested that the following issues be explored in the sexual rehabilitation of gynecologic cancer patients: dispel myths and misinformation, explain diagnosis and treatment, include the partner in sex counseling, and highlight positive aspects (Carenza et al., 1982; Donahue, 1979; Gotay, 1984; Mantell, 1983; O'Hoy & Tang, 1985; Seibel et al., 1980). The pretreatment relationship of sex and self-esteem, the developmental stage of the patient's sexuality, religious or cultural beliefs, and sexual preference are additional aspects that need to be assessed before interventions are attempted (Schain, 1990).

There is not one particular manner in which an individual copes with cancer. When people are confronted with a stressful life situation, they are inclined to draw upon the particular coping mechanisms that have proven effective in the past. However, some of the strategies that are employed may be less defensive and more conducive to healing than others.

Weisman and Worden (1976) have succinctly described the goal of coping as seeking resolution of a declared problem and that defenses seek relief through avoidance and disavowal, not resolution. It is for this reason that the accurate assessment of individual history is important. It should also be remembered that coping is an effort to stay alive and to strive for resolution of the problems, a factor that should never be taken for granted (Weisman & Worden, 1976).

Assessing the coping history of patients can help provide a baseline measure of premorbid functioning as well as potential resources for adjustment. A conceptual model to guide the assessment of coping with cancer was developed by Worden and Sobel (1978) and Sobel and Worden (1979) in work with Harvard's Omega Project (Gotay, 1984). Their work was based on earlier work with coping which was done by Sidle, Moos, Adams, and Cady (1969).

Early resumption of sexual activity, in particular intercourse, may help to facilitate the adjustment process.

This had been recommended by medical and nursing literature on the grounds that it helps preserve the patency of the vaginal vault (Donahue & Knapp, 1977; Jenkins, 1986). Research on adjustment to cancer treatment by Weisman and Worden (1976-77) also suggests that the sooner the patients can return to regular activities, the more quickly they can move away from the remembrances of cancer and treatment.

However, caution should be taken in the resumption of sexual activity, especially in regards to the numerous physical and psychological changes (Schover & Fife, 1985; Schover, 1988). While early resumption may facilitate adjustment, it is important that it is founded on an informed and planned basis. Anxieties and fears of pain or discomfort and self consciousness about scars and appearance are issues that can hinder the resumption of pretreatment levels of sexuality (Schover & Fife, 1985). Schover (1988) provided a valuable resource on sexual counseling, presenting a thorough discussion of sexual rehabilitation following cervical cancer treatment.

A crisis intervention model was used by Capone et al. (1980) who based their intervention on the work of Aguillera and Messick (1965). Results demonstrated a positive effect enhancing the return to normal levels of sexual functions during the first year after treatment. They found differences between the counseled and the noncounseled groups to be significant at 3, 6, 9, and 12 months. Their

results suggested that counseling during the initial stages of treatment has a significant effect on later sexual dysfunctions and may increase the rate of return to previous levels of sexual activity.

Capone et al. (1980) conducted one of the better designed and controlled studies on gynecologic patients. The researchers included an experimental as well as a control group, and assessed patients' pretreatment and follow-up at 3, 6, and 12 months using the same battery of instruments. The data were collected using a structured interview, the Self-Rating Symptom Scale, the Profile of Mood States, and the Tennessee Self-Concept Scale. There was a comparison of groups on age as well as the stage of disease, domains frequently overlooked by other researchers.

Another model of intervention used by researchers for sexual difficulties has been the PLISSIT model, developed by Jack Annon in 1974 (Schain, 1990; von Eschenbach & Schover, 1984). It can be used as a guide or format in which to develop intervention strategies that utilize the multidisciplinary resources necessary in cancer rehabilitation. Further benefits include its flexibility and adaptability to the diverse needs of cancer patients.

Regardless of the choice of intervention, the complexity of psychosocial adjustment to cancer necessitates an evaluation for posttreatment counseling. The positive results of psychosexual counseling for patients during

hospitalization has been shown by Capone et al. (1980). Furthermore, Schover and Fife (1985) have suggested that there is also a need for long-term follow-up for sexual counseling, sometimes years following cancer surgery. It has been their experience that while helpful sexual counseling may be provided at time of treatment, long term sexual problems that need intensive behavior therapy and sex therapy often occur. Long-term follow up can provide opportunity to continue to convey important information about rehabilitation and evaluate problematic areas (Krant, 1981).

Conclusions

The result of cancer in the female genitalia, as is the case with cervical cancer, has a profound psychosocial impact on a woman's life. Disruptions are likely to occur in one or all of the following areas: self-esteem, sexuality, intimacy, and communication. In general, the research indicates that the choice of treatment and the stage of the disease are instrumental in determining the psychosocial adjustment.

The complexities of both the disease and the treatment of cancer make research design a difficult task. While a few researchers have been able to define and operationalize important factors, the research in general is lacking in well controlled studies. Variables such as age of the

patient, stage of the disease, pre- and posttreatment functioning, and the treatment approach are important components that affect the rehabilitation process. All of these areas need better control and further assessment in future studies.

In regard to rehabilitation, strategies need to address the patient as well as her partner. The psychosocial intervention should include a strategy that considers emotional needs and conveys accurate information and education about diagnosis, treatment, and rehabilitation. While intervention is necessary at the early stages of treatment, it is essential that it continue in order to address long-term adjustment issues frequently found with cancer patients.

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